



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,495	07/05/2001	Magozou Hamamoto	Q65333	8441

7590

09/09/2002

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, NW  
Washington, DC 20037-3213

EXAMINER

SMITH, JULIE KNECHT

ART UNIT	PAPER NUMBER
----------	--------------

3682

DATE MAILED: 09/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/898,495

Applicant(s)

HAMAMOTO ET AL.

Examiner

Julie K Smith

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanimoto et al. (6,315,456) in view of the Purecoat International, LLC publication (copyright 2000).

Regarding claim 1, Tanimoto et al. discloses a rolling bearing (see fig. 4) comprising inner and outer members (1, 2) rotatable relative to each other, a plurality of rolling elements (3) rotatably interposed between said inner and outer members and a retainer (4) rotatably holding said rolling elements. Tanimoto et al. is silent as to the material composition of the retainer. However, the Purecoat publication teaches a thermoplastic resin composition having a flexural modulus of 12,410 MPa at 168°C and a heat-resistant temperature of 168°C, which is greater than the 150° required by the Applicant. As temperature increases, flexural modulus decreases, however, an increase of 12° will not cause the flexural modulus to fall below 3500 MPa. The publication further teaches these thermoplastic resins being used in bearings.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the bearing of Tanimoto et al. with the teachings of Purecoat to make the retainer out of a resin having the claimed specifications so as to provide a retainer that

Art Unit: 3682

can be used without the possibility of deformation at high temperatures in order to ensure that the bearing will not fail if used under severe working conditions.

Moreover, it would have been obvious to make the retainer out of the claimed resin composition since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 2, Purecoat teaches a Nylon composition containing glass fiber in the amount from 20-40%. Polyamide 46 is a type of Nylon. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the bearing retainer out of a polyamide 46 with 20-50% glass fiber reinforcement as a polyamide with glass fibers is old and well known in the art.

Regarding claim 3, Purecoat teaches a Nylon composition containing carbon fiber in the amount from 10-40%. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the bearing retainer out of a polyamide 46 with 10-40% carbon fiber reinforcement as a polyamide with carbon fibers is old and well known in the art.

Regarding claim 4, Purecoat teaches polyphenylene sulfide (PPS) resin containing carbon fiber in the amount from 20-40%. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the bearing retainer out of a polyphenylene sulfide with 20-40% carbon fiber reinforcement as a polyphenylene sulfide with carbon fibers is old and well known in the art.

Regarding claim 5, Purecoat teaches a polyether ether ketone (PEEK) resin containing glass fiber in the amount from 20-40%. Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to make the bearing retainer out of a polyether ether ketone with 20-40% carbon fiber reinforcement as a polyether ether ketone with carbon fibers is old and well known in the art.

Regarding claim 6, Purecoat teaches a polyether ether ketone resin containing carbon fiber in the amount from 10-40%. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the bearing retainer out of a polyether ether ketone with 10-40% carbon fiber reinforcement as a polyether ether ketone with carbon fibers is old and well known in the art.

Regarding claim 7, Tanimoto et al. discloses a retainer prepared in such an arrangement that the entire inner circumference acts as a mold gate.

### *Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4,952,354 to Yokoi et al.

5,851,474 to Allan et al.

5,371,132 to Ebara et al.

5,304,422 to Tanabe et al.

4,554,320 to Reimann et al.

5,792,527 to Yoshimitsu et al.

4,532,275 to Aito et al.

4,877,813 to Jinno et al.

5,731,373 to Hirose et al.

6,103,806 to Kido et al.

5,375,933 to Mizutani et al.

6,194,524 to Nagashima et al.

5,554,677 to Nagaoka et al.

5,731,375 to Park et al.

6,048,922 to Brink et al.

3,962,524 to Miyamoto et al.

5,238,990 to Yu et al.

5,917,164 to Sasaki et al.

Thermoplastic Material Guide Selection

Art Unit: 3682

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie K Smith whose telephone number is 703-305-3948. The examiner can normally be reached on Monday-Friday, 8-5:30, (Every other Friday off).

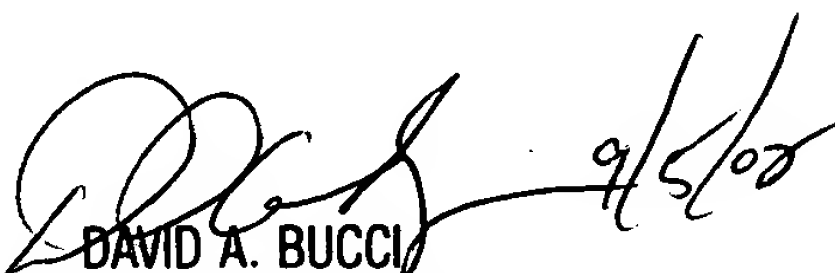
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703-308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

JKS

jks

September 4, 2002

  
DAVID A. BUCCI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600